REPORT FOR THE PERIOD JANUARY 8 to 15, 1937

RE: LOW TEMPERATURES, OCHOCO NATIONAL FOREST

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Project:
Temperature Study.

Personnel:
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Low temperatures were prevalent in eastern Oregon on January 6, 7, and 8, following which, readings were taken of the minimum temperature thermometers previously established on the Ochoco National Forest. Deep snow and stormy weather necessitated the use of skiis to reach most of the trees on which thermometers had been placed. In the end it was considered advisable to omit the two most remote setups until spring and, as a result, 134 of the 146 thermometers were read. Four thermometers did not function properly, consequently only 130 were effective.

At the two permanent weather stations, Prineville and Ochoco Ranger Stations, the lowest temperatures were -24° F. and -27° F., respectively. The recorded range of temperatures in the entire experimental area was from -15° F. to -36° F. Valleys were coldest, slopes less cold, and ridge tops least cold. Elevation was found to have an important effect upon temperature so that in general the following was true.

Elevation in feet	Temperature °F.
2,800 - 4,000	-25 to -36
4,000 - 4,800	-20 to -25
4,800 - 5,600	-15 to -20

No significant differences in temperatures on the north and south sides of trees were found. On the average, temperatures 70 feet above the base were 1° F. higher than at 10 feet from the ground. In the valleys, where differences were most marked, temperatures were as much as 5° F. higher in the tree tops than at the bases.

A limited amount of bark has been examined to determine the amount of pine beetle mortality. These preliminary counts show that 46 percent of the large larvae were killed, which is somewhat less than had been anticipated.

Good fortune has favored the low temperature experiment in that a second period of very cold weather occurred on January 20 and 21. The intensity of this cold at the various stations in the woods will be determined next spring so that three nearly complete records will be obtained for the winter of 1936-37.

Submitted by:

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